

ABSTRACT

An optical fiber sensor enabling simpler detection of a state of an external environment and a measuring apparatus using the same are provided. At a front end of an optical fiber portion 20a for transmitting the light a hetero core having a different diameter from that of a core of the optical fiber portion 20a is melt bonded so as to form a tip type optical fiber sensor 9 having a sensor portion 4 comprised of the hetero core on its front end. An end of the optical fiber portion 20a side of this tip type optical fiber sensor 9 has a light source 1 connected to it. Returned light striking the optical fiber portion 20a from the light source 1 and subjected to interaction with a measurement medium MD at the sensor portion 4 is split by an optical fiber coupler 2 and received at a photodiode or spectrum analyzer 6, thereby an optical fiber sensor measuring apparatus 100 is constructed.